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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,622	04/02/2004	Paul Lapstun	HYT007US	2086

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EXAMINER	
TAYLOR, APRIL ALICIA	
ART UNIT	**PAPER NUMBER**
2876	

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,622	LAPSTUN ET AL.	
	Examiner	Art Unit	
	April A. Taylor	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51,54,55,59 and 61-74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38,52-63,66 and 71-74* is/are rejected.

7)☒ Claim(s) *39-51,64,65 and 67-70* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ~~12/15/04~~ 10/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of the Amendment filed 15 November 2004.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 61 and 64-70 are objected to because of the following informalities:

Re claim 61: Claim 61 is dependent upon claim 60, which has been cancelled.

Re claims 64-70: It is unclear to the examiner to what portions of claim 1 should be included in claims 64-70.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5, 6, 10-12, 14, 15, 17, 18, 20-22, 29-34, 37, 54, 55, 59, 61-63, 66, 72, and 73 are rejected under 35 U.S.C. 102(b) as being anticipated by Swartz et al (US 5,514,861) (hereinafter Swartz).

Re claims 1, 59, 72, and 73: Swartz teaches a scanning system including a housing for mounting on at least one finger of the user in use, the housing including an aperture; a radiation source; a sensor provided in the housing for sensing at least some of the coded data through the aperture when the product item is positioned substantially in contact with the housing; and a processor for determining product identity data indicative of the identity of the product item. (See figures 1A and 1B; col. 3, line 43 to col. 4, line 67)

Re claim 2: Swartz teaches wherein the scanning device includes a harness being worn by the user (see figures 1A and 1B).

Re claim 5: Swartz teaches wherein the sensor senses coded data when the interface surface is provided in a sensing region positioned adjacent the aperture (see figures 1A and 1B; col. 3, line 43 to col. 4, line 67).

Re claim 6: Swartz teaches wherein the scanning device includes a focusing system to focus radiation from the sensing region on to the sensor (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 10: Swartz teaches wherein in use the aperture is positioned so as to allow the sensor to sense coded data when the user grasps a product item in use (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 11: Swartz teaches wherein the scanning device includes input control, and wherein the sensor senses the coded data upon activation of the input control by the user (see col. 3, line 43 to col. 5, line 5).

Re claim 12: Swartz teaches wherein the scanning device further includes a second housing mounted to a body portion of the harness, the processor being provided in the second housing and being coupled to the sensor by a data link (see figures 1A and 1B; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 14: Swartz teaches wherein the radiation source is an LED (see col. 7, lines 9+).

Re claim 15: Swartz teaches wherein the sensor is a 2-D image sensor which captures an image of at least a portion of the interface surface on which the illuminated coded data is disposed (see col. 3, lines 29+).

Re claim 17: Swartz teaches wherein the scanning device senses coded data from the interface surfaces of a number of product items substantially simultaneously (see figure 5; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 18: Swartz teaches wherein the scanning device includes a memory for storing the product identity (see col. 3, line 11 to col. 4, line 67).

Re claim 20: Swartz teaches wherein the product identity data distinguishes the product item from every other product item (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claims 21 and 22: Swartz teaches wherein the processor generates read data representing the identity of the read product item (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claims 29 and 30: Swartz teaches wherein the coded data is indicative of a plurality of reference points; and wherein each reference point corresponds to a

respective location on the interface surface, and wherein the processor generates position data representing the position of a sensed reference point on the interface surface (see figure 1B; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claims 31 and 32: Swartz teaches wherein the interface surface includes at least one region, the region including coded data indicative of an identity of the region, and wherein the processor determines the identity of the at least one region from at least some of the sensed coded data (see figure 1B; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claims 33 and 34: Swartz teaches wherein the coded data includes at a plurality of locations on the interface surface, a corresponding plurality of coded data portions, each coded data portion being indicative of an identity of the interface surface and the position of the coded data portion on the interface surface, and wherein the processor uses the sensed coded data portion to thereby determine the identity of the interface surface; determine position data representing a position of the sensed coded data portion on the interface surface; determine a description of the interface surface using the determined identity; and identify at least one region from the description and the position data, wherein the at least one region represents a user interactive element (see figure 1B; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 37: Swartz teaches wherein the scanning device detects the presence of a plurality of product items in the sensing region (see figure 5; col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 54: Swartz teaches wherein the interface surface is at least one of product item packaging; product item labeling; and a surface of the product item (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 55: Swartz teaches wherein coded data is disposed over at least one of the packaging and the label (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 61: Swartz teaches wherein the method includes grasping the product item (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 62: Swartz teaches handling the product item such that the user's finger in the harness touches the interface surface (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Re claim 63: Swartz teaches wherein the scanning device includes an input control, and wherein the sensor senses the coded data upon activation of the input control by pressing an input button (see col. 3, line 43 to col. 5, line 5; col. 6, line 22 to col. 7, line 45).

Re claim 66: Swartz teaches a scanning device including a beam generator; at least one beam controller; a sensor; and a processor (see col. 3, line 43 to col. 4, line 67; col. 6, line 22 to col. 7, line 45).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 3, 19, 23, 24, 35, 36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al (US 5,514,861) (hereinafter Swartz). The teachings of Swartz have been discussed above.

Re claim 3: Swartz fails to teach or fairly suggest wherein the housing is a thimble. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a housing that is a thimble, since applicant has not disclosed that the housing being in a shape of a thimble solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with either feature. Thus, it would have been an obvious expedient to provide a housing that is a thimble, as it would have been a matter of a design choice of the manufacturer.

Re claim 19: Swartz fails to teach or fairly suggest wherein the coded data encodes an EPC associated with the product item, and wherein the processor determined the EPC. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ coded data that encodes an EPC associated with the product item, and a processor for determining the EPC so that the user can effectively identify the product scanned.

Re claim 23: Swartz fails to teach or fairly suggest wherein the processor generates the read data if the determined product identity data is different to product identity data determined during previous read events. However, it would have been

obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a processor that generates the read data if the determined product identity data is different to product identity data determined during previous read events in order to prevent the product from being scanned more than once.

Re claim 24: Swartz fails to teach or fairly suggest wherein the processor compares the determined product identity data to previously determined product identity data; and generates read data representing the identity of the product item if the determined product identity data has not been previously determined. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a processor that compares the determined product identity data to previously determined product identity data; and generates read data representing the identity of the product item if the determined product identity data has not been previously determined in order to prevent the product from being scanned more than once.

Re claim 35: Swartz fails to teach or fairly suggest wherein the reading device includes a filter being at least one of: a near infrared filter; a band pass filter; and a long pass filter. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a filter in order to pass signals corresponding to a wavelength of the light emitted by the light source.

Re claim 36: Swartz fails to specifically teach or fairly suggest wherein the interface surface is printed using a printer to print the information and coded data. Since Swartz does teach a system for reading indicia printed on a product, it is inherent

that the indicia on the product is printed by using a printer.

Re claim 38: Swartz fails to teach or fairly suggest wherein the processor activates an alarm if the determined product identity data is indicative of more than one product item. However, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a processor that activates an alarm if the determined product identity data is indicative of more than one product item in order to ensure that each product is accurately read.

7. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al (US 5,514,861) (hereinafter Swartz) in view of Hsiao et al (US 5,781,651) (hereinafter Hsiao). The teachings of Swartz have been discussed above.

Swartz fails to teach or fairly suggest wherein the scanning device includes a focusing system including a lens positioned between a prism and an image sensor.

Hsiao teaches a fingerprint recognizing apparatus having a focusing system including a lens positioned between a prism and an image sensor (see col. 2, lines 60+). In view of Hsiao's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a focusing system including a lens positioned between a prism and an image sensor to the teachings of Swartz in order to correct any optical distortion during the signal transmission.

8. Claims 8, 9, 71, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al (US 5,514,861) (hereinafter Swartz) in view of Collins, Jr. et al (US 5,142,131) (hereinafter Collins). The teachings of Swartz have been discussed above.

Swartz fails to teach or fairly suggest wherein the aperture is positioned on the underside of the user's finger; and wherein the reading device is capable of reading an interface surface oriented substantially parallel to a plane defined by the user's hand.

Collins teaches a hand-held barcode reader including a housing having an aperture positioned on the underside of a user's finger; and wherein the reading device is capable of reading an interface surface oriented substantially parallel to a plane defined by the user's hand (figures 1 and 2). In view of Collins' teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ a housing having an aperture positioned on the underside of a user's finger to the teachings of Swartz in order to allow a user to easily position and move the scanning device past an interface surface of a product.

9. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al (US 5,514,861) (hereinafter Swartz) in view of Outwater et al (US 6,203,069) (hereinafter Outwater). The teachings of Swartz have been discussed above.

Swartz fails to teach or fairly suggest wherein the coded data is printed on the interface surface in infrared ink, and the radiation source generates infrared radiation; and wherein the image sensor is an infrared image sensor.

Outwater teaches a product authentication system comprising a label having a barcode that is printed in infrared ink; an infrared radiation source; and an infrared image sensor (see abstract; and col. 4, line 5 to col. 5, line 12). In view of Outwater's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time

the invention was made to employ a reading device for reading a barcode printed in infrared ink, wherein the reading device includes an infrared radiation source and infrared sensor to the teachings of Swartz in order to secure the data printed on the product and to prevent counterfeiters from reproducing the code.

10. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swartz et al (US 5,514,861) (hereinafter Swartz) in view of Roustaei et al (US 6,685,095) (hereinafter Roustaei). The teachings of Swartz have been discussed above.

Swartz fails to teach or fairly suggest wherein the coded data is redundantly encoded using Reed-Solomon encoding; wherein the processor uses the redundantly encoded data to detect one or more errors in the coded data; and wherein the reading device corrects the one or more detected errors.

Roustaei teaches an optical code reading system wherein a coded data is redundantly encoded using Reed-Solomon encoding; wherein the processor uses the redundantly encoded data to detect one or more errors in the coded data; and wherein the reading device corrects the one or more detected errors (see abstract; col. 3, line 66 to col. 4, line 16; and col. 4, line 54 to col. 5, line 8). In view of Roustaei's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ the well known Reed-Solomon code; and a system for detecting errors in the coded data and correcting the detected errors to the teachings of Swartz in order to ensure that the information read from the encoded data is accurate.

Allowable Subject Matter

11. Claims 39-51, 64, 65, and 67-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination, fails to teach or fairly suggest, in conjunction with other limitations in the claims, wherein the coded data is disposed with at least one layout, the layout having at least order n rotational symmetry, where n is at least two, the layout including n identical sub-layouts rotated 1/n revolutions apart about a center of rotational symmetry of the layout, the coded data disposed in accordance with each sub-layout including rotation indicating data that distinguishes the rotation of that sub-layout from the rotation of at least one other sub-layout within the layout. Furthermore, the prior art of record fails to teach or fairly suggest, in conjunction with other limitations in the claims, a scanning device including a laser for emitting at least one scanning beam being directed in first and second orthogonal directions to thereby generate a raster scan pattern over a scanning patch.

Response to Arguments

13. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Outwater (US 6,612,494) discloses a product authentication system.

Bard et al (US 6,003,774) disclose a portable optical scanning and pointing system.

Sandor (US 5,340,972) discloses a hands-free bar code scanner.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to April A. Taylor whose telephone number is (571) 272-2403. The examiner can normally be reached on Monday - Friday from 6:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [april.taylor@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the

Interim Internet Usage Policy published in the official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAT
27 June 2005

KARL D. FRECH
PRIMARY EXAMINER